

### **REMARKS**

Reconsideration and allowance in view of the following remarks are respectfully requested.

Claims 1-18 are pending in the application. Applicant has maintained the original claims, without amendment.

Applicant amended the specification to add a new first paragraph of the specification to specify the priority information. No new matter has been added.

The Examiner rejected claims 1-18 under 35 U.S.C. § 102(e) as being anticipated by Meyer-Almes (US 2003/0096433). Applicant respectfully traverses this rejection for at least the following reasons.

Independent claim 1 recites, among other things, the following in the final three paragraphs:

identifying the intervals between the arrival time of a given photon and the arrival time of other photons in said plurality of photons to thereby provide photon pair intervals that are a measure of the time between the arrival of each pair of photons in said plurality of photons;

determining the number of photons that have arrival times that are within said photon pair intervals to provide a measure of intervening photons located within said photon pair intervals; and

using said photon pair intervals and said measure of intervening photons to analyze properties of said species that are located in said detection volume.

The only remaining claim, claim 9, recites similar features in the final three paragraphs of that claim.

Applicant respectfully submits that Meyer-Almes fails to disclose such features and thus none of the claims are anticipated by that reference. Furthermore, Meyer-Almes teaches a different type of analysis than those recited in claims 1-18 and in fact teaches away from the claims of this application.

Meyer-Almes at paragraph [0016] teaches “[o]ptically sensing the output signals can be performed by either measuring in a repetitive mode a number of photon counts per time interval of defined length or by measuring in a repetitive mode a length of time intervals between preferably consecutive photon counts. Thereafter, distribution functions of either the number of photon counts or the length of time intervals are build [sic] from which distribution functions of the specific brightness of said carrier particles and/or said fluorescently tagged components are derived.” (Emphasis added.) This is teaching a method that requires counting the number of photons per defined time interval or determining the length of time intervals between preferably consecutive photon counts. Paragraph [0026] of Meyer-Almes, also cited by the examiner, basically repeats this description. The processing methods described in Meyer-Almes are based on processing the number of photons per defined time interval or the time intervals between preferably consecutive photon counts.

In contrast, the methods of claims 1-18 of the current application use a joint distribution where photons, consecutive and non-consecutive, define the time intervals on which to count photons. The time between the photons is determined as well as the number of photons between them. This is clearly recited in the independent claims in which the above-quoted identifying is “to thereby provide photon pair intervals that are a measure of the time between the arrival of each pair of photons in said plurality of photons ... .” Thus, times intervals between photons 1 and 2, 1 and 3, 1 and 4, 2 and 3, 2 and 4, and 3 and 4, for example, are determined according to an embodiment of the current invention. The specification describes in numerous places throughout that this method can provide additional information compared to conventional methods. (See paragraph [0023] of the current application for one such example.) In Meyer-Almes, only intervals between 1 and 2, 2 and 3, and 3 and 4 are determined by the preferred approach. Even if Meyer-Almes were interpreted as suggesting that one should determine intervals between nonconsecutive photons,

which applicant does not concede, this would merely teach one to determine the intervals between photons 1 and 3, 3 and 5, 5 and 7, etc., for example. Meyer-Almes neither teaches nor suggests determining intervals between all pairs of photons counted.

Furthermore, Meyer-Almes does not determine numbers of photons within each of the intervals determined in conjunction with determining the intervals as recited in the “determining” step of claims 1 and 9. Meyer-Almes teaches as an alternative to determining intervals between preferably consecutive photons, one can count the number of photons within a time interval of a defined length. In addition, since Meyer-Almes neither discloses nor suggests the “identifying” and “determining” steps of claims 1 and 9, it cannot teach or suggest the recited “using” step. Therefore, applicant respectfully submits that claims 1-18 are patentable over Meyer-Almes and thus requests that the rejection under 35 U.S.C. § 102(e) be withdrawn.

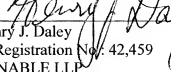
Applicant has addressed all of the Examiner’s objections and rejections and respectfully submits that the application is in condition for allowance.

Applicant’s representative encourages the Examiner to contact him at the telephone number indicated below if it may help expedite the prosecution of the current application.

In view of the above Remarks, applicant believes the pending application is in condition for allowance.

Dated: August 14, 2008

Respectfully submitted,

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